

Gold<sup>AND</sup> Silver  
Treasure  
of Vaults  
Tintic District  
Utah



# Gold and Silver : :

## Treasure Vaults

### OF Tintic District, Utah.

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#### WHY THIS BOOK?

This little book is published in response to a wide demand for information about one of the great mining districts of the West. It is not sent out as an advertisement of any particular property, but is intended to be of sufficient scope to fairly represent the character of the district and all its various interests.

The Rio Grande Western Railway, during its brief history as a standard gauge transcontinental road, has made an unprecedented record as a pusher and a developer of its tributary country. Within the past few months, by some of the grandest achievements in railway engineering, it has constructed a branch from its main line, across the Tintic range of mountains, into that marvellously rich and rapidly developing mineral country known as the Tintic region, comprising Tintic, North Tintic and West Tintic districts.

Reaching, as the Rio Grande Western by its connections does, so many mining camps throughout the West, there have recently been a vast number of inquiries about this region, and the publication of a pamphlet of this kind became a necessity. It is due in equal measure to the enterprise of Mr. J. H. Bennett, General Passenger and Ticket Agent of the Rio Grande Western at Salt Lake City, the generosity of the people of Eureka and Silver City, and the energy of the Irrigation Age Printing House.

Mr. Frank K. Gillespie, for two years Secretary of the Salt Lake Chamber of Commerce, was engaged to prepare the work. In doing so he went over the ground and with entire impartiality noted such properties as really deserved mention, so far as it was possible to obtain information, and to any who may imagine that they or their properties have been slighted this explanation is made. Information concerning each and every property was earnestly and diligently sought from persons known to be among the best posted, the most conservative and the most reliable in the various portions of the district, and from the files of the *Tintic Miner*, published at Eureka.

## HOW TO REACH TINTIC.

Its accessibility from Salt Lake City and all of the Mining Districts of Utah and Colorado.

On the new Tintic Range Railway branch of the Rio Grande Western Railway—The Great Standard Gauge Trans-Continental Route.

Before describing the "The Tintic country," a brief chapter upon its relative geographical and railroad location would be useful. Through chair cars leave Salt Lake every afternoon at 4 o'clock for Eureka and Silver City, eighty miles to the southwest, and returning each morning leave Silver City at 7 and Eureka at 7:10 o'clock. The Tintic Range Railway (R. G. W. Ry. Branch), leaves the main line at Springville, about half way.

## A PICTURESQUE ROUTE.

Passing through the beautiful Utah Valley and the towns of Payson, Santaquin and Goshen, the ascent of Tintic Range begins. The first grand surprise is the Great Double Loop, where the PARALLEL STEEL SERPENTS coil, re-coil and cross themselves in this wonder of engineering. From these winding heights the vision takes in, in recurring succession, the surrounding mountains, beautiful valleys of Goshen, Payson, the grand stretch of placid Utah Lake and the far east snow-capped Wasatch Mountains. The train whirls through tunnels of solid rock over graceful, arched trestles, a hundred feet in height, culminating in grand sweeps of curves in the Great "S" Curve at Homansville. Then the road gradually ascends the divide, bringing into view, ahead, the live, bustling Eureka, the largest town and business center of the Tintic country and "The Bonanzas' Home."

Here are the Eureka Hill, the Bullion-Beck, the Centennial-Eureka and Keystone or Gemini, the Bonanza mines of Eureka. More than once, however, some of these mines and some of Tintic's other great bonanza mines had to yield their places at the head of the list, to newer and comparatively unnoticed properties. There is no good reason why such a thing will not again occur.

The Rio Grande Western depot is very convenient to the center of the town. Continuing west and turning south along the west face of Eureka Mountain, Tintic valley stretches to the Tintic mountains, fourteen miles westward.

## AT MAMMOTH HOLLOW,

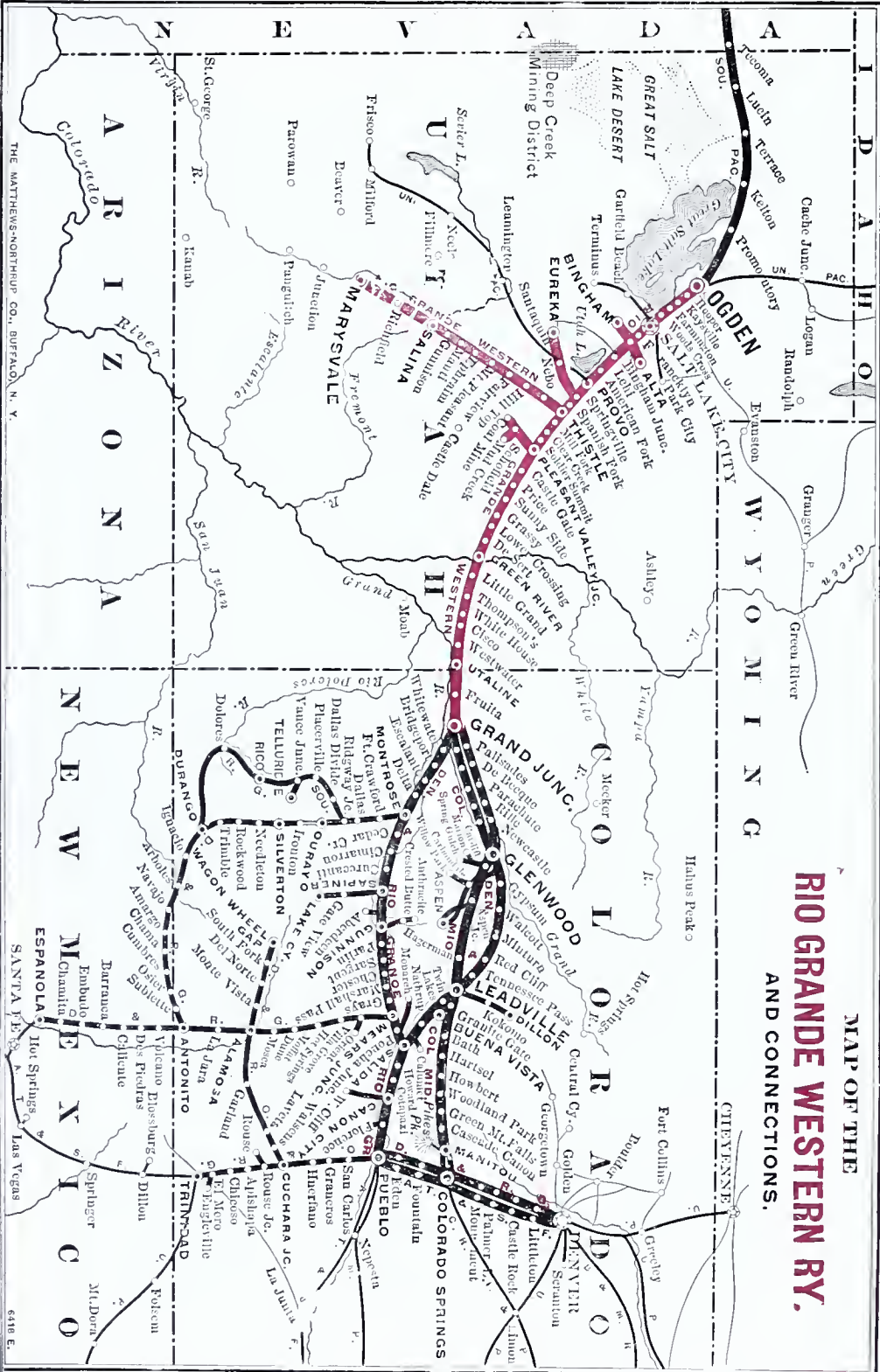
in plain view, one and one-half miles away, and about 700 feet higher, is Mammoth, clustered about that famous bonanza mine—the Mammoth, adjoining which is the Copperopolis, another bonanza. The railroad has located up to these mines. Off to the right are the Rice Sampling Works, next comes another bonanza mine, the Swansea, which having been reopened is again on the road to fame as a great producer.

In full view is

## SILVER CITY,

the business point for the south half of the Tintic district, and the southern terminus of the Tintic Range Railway. The Recorder of the Tintic District is here, and gives the town prominence. Silver City lies on the level before the foothills

# MAP OF THE **RIO GRANDE WESTERN RY.** AND CONNECTIONS.





## THERE ARE PLENTY OF BONANZA MINES

in this vicinity, and they have good, old or young records, as the case may be. The Rio Grande depot is at the foot of the main street.

## COMING FROM THE EAST

passengers from Colorado cities, mining districts, States or Territories, north, east or south of that State, may come to Tintic by any one of the three most beautiful and picturesque routes in America, the *Denver and Rio Grande standard gauge*, or *narrow gauge*, or the *Colorado Midland, standard gauge*. All meet the Rio Grande Western at Grand Junction, near the west line of Colorado, and change cars for Tintic at Springville.

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## TINTIC DISTRICTS.

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GEOGRAPHICAL LOCATION AND SURROUNDINGS—NORTH  
AND SOUTH TINTIC DISTRICTS JOIN IT—WEST TINTIC IS  
CLOSE BY.

Tintic District was organized December 13, 1869. On that day was located the Sunbeam lode, which at once developed into a good property and shipped much very high grade ore, and is still regarded as a good property. Tintic mining district lies in Juab county, Utah, covering that portion of the Tintic range of mountains lying west of Goshen valley, which valley is southwest of Utah Lake. The district is ten miles east and west by fifteen miles north and south. The south line is seven and one-half miles south of the town of Silver City, and the north line about four miles north of Eureka. The west line is two miles west of the town of Eureka, and the east line three miles east of Homansville.

In order, however, to give a comprehensive idea of the mineral country which naturally belongs to Tintic's mining country, there should be mentioned the contiguous districts which, while geographically inseparable from Tintic proper, are legally North Tintic mining district and West Tintic mining district.

## NORTH TINTIC MINING DISTRICT

adjoins Tintic on its north, and is ten miles north and south and ten miles east and west. These two, together with WEST TINTIC district, present an area of 350 square miles, which for ease, economy and rapidity of development and for instances and assurances of unexcelled successes, cannot be equaled.

WEST TINTIC lies beyond Tintic valley, west of Tintic district, and fifteen miles distant over good wagon roads.

# A GREAT BONANZA CAMP.

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TINTIC, UTAH'S MOST PRODUCTIVE, MOST PROFITABLE AND GREATEST CAMP—AN UNPARALLELED RECORD OF RAPIDLY DEVELOPED AND LASTING PROPERTIES.

A locality with facilities and advantages for mining and investments not equaled elsewhere.

Of all the great mining districts of the West, not one has built up more rapidly, quietly or steadily than has Tintic, whose steady progress has been entirely free from "boom." Even in Utah it has attracted little attention, except from those directly interested. If such a district, with such bonanza mines, existed in some of our neighboring States, the welkin would surely ring with its praises.

## ITS GREAT PRODUCTION.

The first bonanza mine was the Mammoth, opened about 1870. It has continued and still is a bonanza property. The Eureka Hill, the next great bonanza, is still one with a record of eighteen years. The Bullion-Beck and Champion, for the past ten years or more, a great bonanza, is still one. The Centennial-Eureka is another great mine, and is still a bonanza. The Keystone, the latest aspirant for bonanza honors, has for a year well earned them.

Other properties have been and are again becoming famous bonanza mines. Among them, Copperopolis, Swansea, Shoebridge, Sunbeam and score of others.

## MOST FAVORABLE MINING.

Only eighty miles from Salt Lake City, there is not another mining section anywhere that has Tintic's few faults and many advantages. Transportation is first class. Supplies are quickly obtainable and reasonably cheap. Labor is reliable and satisfactory. The formation permits rapid development. There is no water with which to contend and little timbering is required. Fuel and water are not expensive and building material is moderate in price. Active development can be carried on all the year. The climate is healthful and invigorating. Capital expended on property judiciously located, always develops good ore bodies. Its ores are largely very high, and above all are cheaply mined. Its low grade ores are in immense bodies, and beside silver and gold, are valuable for fluxing. Four distinct processes now in actual operation, treating with greatest success and least expense, all classes of Tintic's low grade ores will add millions to Tintic's annual output and scores of dividend paying mines. There are good commercial towns, with social, religious, educational and other advantages, and good hotel and livery accommodations. Repairs and mechanical supplies can be quickly made and long waits and expensive trips saved.

## LARGE OR SMALL CAPITALISTS.

Tintic is pre-eminently the mecca (or is rapidly becoming such) of men of capital and energy. There are scores of promising properties, upon which enough has been done to assure such great successes as have been made on adjoining properties. These, for the want of small capital, cannot be developed. Exceedingly low prices or favorable bonds or leases can be procured.

## A \$25,000,000.000 DOLLAR CAMP.

Tintic's output up to the present time is estimated at about \$25,000,000,000. This is being augmented at a greatly and regularly increasing ratio each year. There are constantly being added new names to the list of producers, and throughout the district gold is steadily and rapidly increasing. These figures are taken from the Director of The Mint's Report, but reports for the missing years could not be obtained.

## UTAH'S MINERAL OUTPUT.

The following table shows Utah's mineral output, not including iron and some other valuable minerals :

Copper, pounds.....	1,836,060
Refined Lead, pounds.....	6,170,000
Unrefined Lead, pounds ..	80,356,528
Fine Silver, ounces.....	8,915,223
Fine Gold, ounces.....	36,160

Computing the gold and silver at their mint valuation, and other metals to \$16,198,066.81 at their value at the seaboard, it would increase the value of the product.

The following table, which is the only one just now obtainable, shows Utah's production of silver and gold in ounces for the past fifteen years. The table above and the following one are taken from Wells Fargo & Co.'s annual statements. The latter demonstrates the rapidity and steadiness of the growth of Utah's output of silver and gold:

Year	Total Ounces of Silver Produced.	Total Ounces of Gold Produced.	Year	Total Ounces of Silver Produced.	Total Ounces of Gold Produced.
1877	4,359,703	17,325	1885	5,972,689	8,903
1878	4,357,328	15,040	1886	5,918,842	10,577
1879	3,835,047	15,932	1887	6,161,737	11,387
1880	3,783,566	8,020	1888	6,178,855	13,886
1881	5,400,101	7,958	1889	7,147,651	24,975
1882	5,435,444	9,039	1890	8,165,586	33,851
1883	4,531,763	6,991	1891	8,915,223	.....
1884	5,669,488	5,530	.....	.....	.....

## TINTIC'S PRODUCTIONS.

	TONS.	OZS. GOLD.	OZS. SILVER.
1885—District, not itemized.....	.....	868	868,925
1886—District, not itemized.....	.....	2,300	825,000
1889—District, not itemized.....	46,075	14,940	2,055,000
1890—District, not itemized.....	68,177	24,633	3,801,700
1891—District, not itemized.....	65,006	19,444	2,901,730





## UTAH'S GREATEST CAMP.

In 1890, Tintic took the lead as the greatest producer of gold and silver in Utah, and also produced more than had ever before been produced in any year, by any Utah camp. Tintic's average value per ton was also greater than that of Utah's next largest producing camp.

## TINTIC'S GREAT BONANZA MINES

are among the most remarkable mines of the West. Half a score of properties have produced half a million dollars each, but description will be limited to these producing their millions.

THE FAMOUS MAMMOTH first created a stir in Tintic in 1871, and has since become a great dividend-payer, its first-grade ore frequently runs into the thousands in silver and gold. Some is high grade copper ore. The ore bodies are very large. Lower levels begin to show more galena. The mine is operated to the 1100-foot level through a compartment shaft from the 300-foot or tunnel level, where the hoist is located under ground, the boilers and immense air compressor being outside.

The Mammoth has been paying 10 cents per share, or \$40,000 per month, making dividends to date \$10,050,000. For several months dividends have not been paid regularly—not inadequacy of the property, but usually other reasons are stated. It is to-day regarded by many persons well posted as second to no other Tintic mine. A mill was run in connection with the mine, and located seven miles southwest. This Tintic, now Shettle mill, remodelled, uses the Clark process for leaching Tintic ores.

THE EUREKA-HILL was the next bonanza mine. This company is a very close corporation, paying dividends when it pleases. They are about \$200,000 per year; paid to date about \$1,250,000. Its triple compartment shaft is opened 1,200 feet. In all Tintic's bonanzas there are air compressors, power drills, electric lights and all other modern innovations. The Eureka-Hill has produced much ore, running high in silver, gold and lead and some very fine copper.

THE BULLION-BECK AND CHAMPION, another great bonanza, is located in Eureka. It is opened to the 1000-foot level. The ore is very similar to that of adjoining properties. It is another close corporation, paying dividends as it pleases. Lately the plan has been monthly dividends of \$25,000 or \$50,000 each; total to date, \$800,000.

THE CAROLINE.—One of the best paying properties in Tintic belongs to John Beck of the B.-B. & C. Company. The mine employs the B.-B. & C. Company to do its hoisting. Not being incorporated, it declares no dividends.

THE CENTENNIAL EUREKA has made a record as a bonanza and a dividend payer unexcelled in Tintic. The mine is located on the same mineral zone as the Eureka Hill and others. It runs very high in silver, well in gold, and frequently, rich in copper. When newly opened mining districts in Utah were parading their strikes of rich ore, the manager of the Centennial-Eureka had two carloads of first-class ore broken down and shipped to Salt Lake, where they sold for over \$15,000 per car, net. The mine is now expending \$100,000 or more on the finest hoist in the West. This property has not missed a monthly dividend, but paid, first 50 cents per share—\$15,000 per month—and later \$30,000 and one dividend of \$2.00 per share. Half of the \$1 dividends are now put aside for the new plant. It is on the south side of Eureka Gulch, 500 feet above town, 400 feet above the

Eureka-Hill, and south about 2,500 feet. Opened to the 700-foot level, it will be pushed to possibly the 2,500.

THE KEYSTONE OR GEMINI, another close corporation owned by the Eureka-Hill people, is in Eureka, and north and a little east of the Bullion-Beck and Champion. First-class in every particular, the mine is opened 700 feet. The Keystone is a claim in the Gemini Group—an extensive property. The Colorado Chief shaft, on the Gemini ground, 3,300 feet northeast, has been connected with the Keystone. Accurate authority says that quarterly dividends of \$180,000—\$60,000 per month—are paid. The mine not long since made a shipment of the richest ore that ever was shipped from Eureka, if not from Tintic. It was either a one or a two car-load shipment. The lot sold for \$104,000.

This ore was reported so rich in horn silver as to clog the machinery in crushing it.

THE COPPEROPOLIS, south of the Mammoth, produced in ore similar to the Mammoth's, about \$1,000,000. It is being reopened and made a dividend payer.

THE SWANSEA, south of the Copperopolis, produced over \$600,000 of high-grade ores, and has again been opened. A few days since it distinguished itself by sending out some ore carrying 622 ounces silver. Early dividends are assured.

A dozen others have produced from \$100,000 to \$500,000, and many more from \$50,000 to \$100,000, besides properties whose low grade ores have heretofore been held as reserves. But now that four very cheap processes have been inaugurated, new names will be added to the roll of Tintic's bonanza mines.

## TINTIC ORES.

Tintic's ores are, in grade, above those of any other large camp in Utah not only in silver but in gold, which is frequently free. Copper sometimes runs as high as 25 per cent, and the average of lead in Tintic ores is estimated at 15 per cent. The high fluxing qualities of Tintic ores, which carry lead or iron or lime in desirable proportions, add to their values.

## TINTIC'S TOWNS

are EUREKA, SILVER CITY and MAMMOTH. The first the commercial center for the district, and the last the terminus of the Rio Grande Western Railway and the location of the Recorder's office. Any property in the district can be reached and a return made to any of these towns the same day. Buggies can be driven directly to, or approach within a few steps, of any property. Roads are neither dangerous or impassable. The railway is within an easy and short haul of every property.

## EUREKA,

6,400 feet elevation, is the first town reached on the Rio Grande Western, and is a thriving place of about 2,500 inhabitants. The mines, with their splendid surface improvements, bespeak the solidity of the town, and its busy streets indicate the prosperous mining town. Rapid advances in the past few years are resulting in a greatly improved class of buildings, brick and stone superseding lumber. A view from one of the elevations overlooking the town, showing the number and variety of new homes,



gives the most comprehensive idea of the rapidity and solidity of its advancement.

—The Court House or Town Hall and the Odd Fellows building, solid two-story stone buildings, are creditable to the town. In hotel accommodations, Eureka is fortunate. The Eureka Hotel is one few towns twice Eureka's population can duplicate. As an evidence of the growing popularity and importance of Eureka, this leading hotel has had to begin building a three-story brick hotel giving a capacity of fifty-five rooms with all modern improvements. There are other good, smaller hosteleries, restaurants, etc. The town has a banking house, and every line of commercial business usual in towns of Eureka's size and surroundings, flourishes. The peaceful and quiet air of Eureka's streets is commented upon by all who have traveled through mining sections. Good livery stables provide competent guides to pilot investors.

### SCHOOLS, CHURCHES, ETC.,

are as numerous and as prosperous as in any western town of 2,500. There are public, Catholic and Mormon schools well conducted.

### AMUSEMENTS.

Odd Fellows Hall, a commodious and well appointed public hall, makes a good theatre.

### SECRET SOCIETIES.

Nearly all Masonic and similar orders have strong and flourishing lodges.

### THE WATER SUPPLY

from springs, is good and gives ample fire protection.

### THE TINTIC "MINER,"

by which all Tintic swears, published every Friday at Eureka, is alive to the interests of its town and section, ably edited and successfully managed by the Rathbone Brothers and appreciated by the community.

### MAMMOTH,<sup>2</sup>

three hundred inhabitants, surrounds the Mammoth mine. The Company's boarding house serves as an excellent hotel. A couple of stores, a postoffice, etc., a public school, and good water supply are features.

### SILVER CITY,

four hundred inhabitants, is the postoffice and trading center for hundreds of people in the surrounding hills. The office of Recorder of the District is here and so is the terminus of the Rio Grande Western Railway. "Silver" is the popular name. The Condon House, built in 1890 by Condon Bros., just refitted and reopened by them, is well conducted and has twenty-four rooms. The American Hotel is another good hotel, although not so large as the Condon. There are the usual stores, etc., and a good public school. Mr. C. H. Blanchard, the recorder and postmaster, is the best posted man regarding properties in the district.

## TINTIC FORMATIONS.

## PORPHYRY IN THE SOUTH HALF AND LIME IN THE NORTH.

Large and rich ore zones or series of veins in the lime. Fissures in the porphyry.

- Distinguishing characteristics, easily worked ground, freedom from water. Tintic is in the Tintic Mountains, Juab County. These mountains have been separated on the north end from the Oquirrh Range in which is Bingham Mining District. There are evidences of a basin. Utah Lake and Goshen Valley lie at the eastern base of this range, which extends north and south. In Tintic District it seems divided into two parallel ranges connected by cross spurs.

## MINERALIZED FOR 25 MILES.

Tintic and North Tintic districts—twenty-five miles north and south—are well mineralized. The width of this series of mineral zones is five to ten miles. On the west slope quartzite extends from Silver City northward. Eastward, it comes up against lime. Between these is a belt of slate or shale. This contact, irregular in size and direction at points, has quartzite dykes thrown across into the main lime formation.

From Mammoth Hollow north, the main belt or ore zone is in blue or grayish lime.

**PORPHYRY BELT.**—From Mammoth Hollow south, the lime apparently dips, and is overcapped by porphyry, there the country rock. This prevails for several miles south, where lime again crops, sometimes displacing the overlying porphyry. Quartz sometimes comes to the surface through the porphyry. Penetrating the lime east of Eureka is an extensive body called trachyte closely resembling granite.

## ORE DEPOSITS.

A great diversity of opinion exists as to the nature of the Tintic deposits. This diversity has not applied to the porphyry belt, the true fissures being there clearly apparent. The porphyry veins are more uniform in width near the surface than those in the lime. The main veins have a general direction about 20 degrees east of north in the porphyry. Jutting off are cross veins, frequently carrying rich ores. In the porphyry the formation is more nearly level than in the lime, where the stratification is tipped to almost a perpendicular.

In the lime, the distance between walls at times is sixty feet. In such places these deposits are called chimneys or chutes, and frequently extend from the surface to the lowest workings. These ore channels, or series of parallel veins have been much referred to as mineral zones. In the lower workings, the dip, general direction and width of the veins have become more certain. These veins or ledges run a little west of north, and are practically vertical, with a possible dip to the west.

## NO CONTENDING WITH WATER.

Enough water is obtainable and developed to meet all requirements for domestic, steam and mining purposes. Still it is a source of universal



congratulation, and great revenue, that Tintic is a "dry camp." Not a pump is required in a single mine in any part of Tintic. Water is sought instead of avoided.

### EASY MINING COUNTRY.

Tintic presents more advantages and opportunities for securing good properties on easy terms and developing them cheaply than any other district in the West.

### AROUND TINTIC.

Describing the properties of the Tintic District properly, as they come in view from the Rio Grande Western Railway, approaching Eureka from the east, the plan adopted will be to follow westward along the south side of Eureka Gulch or the north slope of the Godiva and Eureka Mountains into

### THE TOWN OF EUREKA.

Here are located such bonanza properties as the Centennial Eureka, Eureka Hill, Red Bird, Bullion-Beck and Champion, Caroline and Keystone, marvels in their rich and lasting qualities. Following the Rio Grande Western Railway around the west end and slope of this range of mountains, properties will be mentioned in their order to

### SILVER CITY,

where there is an opening or pass through the range made by several hollows or gulches running in a general westerly and southerly direction toward Silver City. Descriptions from this point will be followed east and north up Dragon Hollow and its several forks, which have special names, and continued along the north and west sides of these gulches, around the group of mountains just mentioned until the east side of Godiva Mountain is reached and connection made at the first described property.

There will next be mentioned properties on the plateau or tops of this group of mountains.

### DIAMOND CITY VICINITY.

Returning to the northern and eastern ends of the hollows or gulches which open at Silver City, into Tintic Valley, descriptions will be resumed on the opposite sides from those first followed, continuing south and west along the east and south sides of these hollows.

Having described the southern end of the district,

### NORTH OF EUREKA GULCH

will be taken up at the west end of the north side of Eureka Gulch, going east, along the southern tier of properties. The next tier north will be followed west, and so on, and the wonderful newly opened North Tintic properties will next follow, and then will come

## THE HOMANSVILLE VICINITY,

the extreme eastern portion of Tintic district, which has heretofore received little attention, chiefly on account of its remoteness from a railway, until the Rio Grande Western completed its Tintic Range branch directly through it.

## WEST TINTIC DISTRICT,

in West Tintic Mountains, across Tintic Valley, fourteen miles from Tintic's west line, will be next briefly mentioned.

## TINTIC PROPERTIES.

THE SUCCESS lies northeast of the Sioux mine, on the east side of Godiva mountain. It has made a very good showing in assays, and belongs to a number of Eureka parties.

THE YANKEE CONSOLIDATED.—The Yankee Consolidated and Mountain View lie northeast of the Success, and belong to Eureka parties. They are being developed by tunnel, in fifty feet, which has struck good lead and silver ore, native copper and iron pyrites.

GIANT TUNNEL AND MINING COMPANY.—Northeast and lower down on the east side of the Godiva mountain, is the Little Willie, chosen by the Giant Tunnel and Mining Company as its starting point. Work is to be begun immediately. Active Eureka people are in the enterprise. Locating tunnel sites has been little noticed in Tintic. The Giant Company has located 3,000 feet in one of the best portions of the district, running due west under Godiva mountain, in which are located the Godiva and the Tetro. Inasmuch as it is believed the Giant Company will cut some valuable veins and acquire depth of 1,200 feet, its development will be watched with interest. Capital stock is 500,000 shares, \$1 each.

THE LAKE VIEW lies northeast of the Yankee Consolidated, and belongs to Hunter, Ryan and Hunt, of Eureka. It is developed by shaft 60 feet and is in ore of fair grade. The croppings showed gold and silver. Native silver was found at 35 feet. From the bottom of the shaft there is a drift run west to catch the strong vein.

THE MAY DAY, north of the Lake View, has two shafts—14 and 18 feet deep. From one a drift has been run 35 feet. Some good ore has been struck. The property is now idle and belongs to Eureka parties.

THE UNCLE SAM.—Following around Godiva mountain comes the Uncle Sam, belonging to the owners of the Lady Godiva. Its tunnel, in quite a distance, struck a very large body of low grade ore, said to be 40, 60 and even 80 feet. Ore showed on the surface.

THE LADY GODIVA, or the "Godiva," is lower down on the mountain and north from the Uncle Sam. The phenomenal success of the Godiva Company has given an impetus to development work in this new portion of the district. The Godiva Company is composed of Messrs John Q. Packard, Noah McChrystal, of the famous Eureka Hill, Red Bird and Keystone mines. The working tunnel is 800 feet, and 1,500 feet of drifting, cross-cutting and stoping has been done. Less than 100 feet depth has been secured, but very large amounts of excellent shipping ore for the ground opened up have been mined. Some averaged 300 to 400 ounces silver, and some ran \$300 in gold. Native and horn silver were found.

THE TETRO MINE.—Following westward along the south side of Eureka Gulch, the Tetro mine is reached. Well up on the mountain side

it has a tunnel 550 feet which has cut several minor veins carrying good assays. The main ledge has not been reached. Some cross-cutting has been done. Captain James F. Woodman, president of the fabulously rich Centennial-Eureka, has bought all unsold treasury stock. Extensive developments will be inaugurated. Eureka and Salt Lake parties are the owners.

**THE RICHMOND**, west of the Godiva, has a shaft 60 feet and a large ore body of fair grade. None has been shipped.

**THE VICTORIA**, west of the Richmond, is in lime and quartz and has a 90-foot shaft with a 50-foot drift, and from that is a winze. Eureka parties own it and are working on good ore. Early shipments are expected.

**THE EAGLE**, to the west of the Victoria, is in a small gulch south from Eureka gulch. This incorporated company has nine or more claims. Here is another of Tintic's new properties which has shipped considerable very fine ore and has considerable development work by tunnel, etc. A triple compartment shaft has been started.

**THE SNOWFLAKE**, west of the Eagle, shipped much high grade ore and has considerable development. It has a shaft worked with a whim.

**THE RED BIRD**, once a great shipper of rich ore, is now worked through the Eureka Hill, on the southwest.

**THE EUREKA HILL AND OTHERS**, lie south and west from the Red Bird, but are treated separately in a chapter on "Tintic's Bonanza Mines," including the Centennial-Eureka, Bullion-Beck and Champion, Caroline and Keystone and others.

**THE GENERAL LOGAN**, west of the Bullion-Beck and Champion has a 175-foot shaft with an excellent showing of low grade ore.

**THE DEPRIZEN GROUP**, including a number of good claims, west of the General Logan, is of the same character and has had about the same development work as the Logan. Some high assays have been had.

**THE GOLDEN RAY GROUP**, west of the Deprizen group, has a shaft and tunnel. Very high assays have been made.

**PASSADENA MINING COMPANY**—On the west side of the mountain. The Passadena Mining Company's property has a 150-foot tunnel, and a shaft started from that. It is in quartzite and assays and general indications are good.

**THE ALBANY GROUP** has a property up a gulch north from Mammoth Hollow. It has a tunnel and from that quite a shaft has been sunk in lime. It has shipped no ore.

**THE DIAMOND MINE**, southeast of the Albany, and between it and the Mammoth, has a steam hoist, a diamond prospecting core drill and is putting in an air compressor. The shaft is 400 feet in lime. Drifting has begun to cut the vein. Owners are principally Salt Lake people.

**AXIDENT, DIPPER AND ECLIPSE** belong to Isaac Wolfe and others of Salt Lake, and are adjoining the Mammoth Company's ground on the northwest. The shaft, 120 feet, is worked with a whim. Drifting has resulted in finding good bodies of rich copper ore, similar to that in the famous Mammoth. No shipments have been made.

**COPPEROPOLIS**—Leaving the Bonanza-Mammoth, the first property of importance is the Copperopolis on the same contact as the Mammoth. It has shipped large quantities of ore, high in gold, silver and copper. The mine has been idle on account of reported squabbles between English and American stockholders. Lately a compromise has been made whereby the mine is to be worked vigorously. It has a tunnel, winze and crosscuts. The company had a 15-stamp mill and also a water jacket smelter for copper matte. There is a tradition that there was misappropriated, some \$60,-



VIEW OF UTAH LAKE. ON THE WAY TO TINTIC.



ooo cash of the company, which suspended the company. The possibilities are that the Copperopolis will soon again employ 300 men. It is estimated to have produced more than \$1,000,000.

**SOUTH MAMMOTH**, between Mammoth and Copperopolis is regarded as a promising property.

**THE HUNGARIAN**, south and west of the Copperopolis, has had some development, and made some shipments of good ore at times, showing \$2,000 per ton. C. Chamberlain and others of Eureka have just bonded it for sixteen months at \$20,000.

**TRAIL AND BLACK JACK**, southeast of the Copperopolis and several hundred feet higher, are owned by the Tintic Iron Company, and have shipped considerable good ore. Their development has been by tunnels.

**THE PHOENIX** is well advanced toward becoming a large producer. It joins the Trail on the latter's north and the South Mammoth to the west. Two tunnels, thirty and forty feet respectively, and the main tunnel ninety feet. From this are two shafts, 130 and 100 feet deep. Work is being prosecuted vigorously and the mine being directly between the Mammoth and Copperopolis on the north, and the Red Rose and North Star to the south, promises well. George Rust, the original locator of the Mammoth and the Eureka-Hill, is the locator and owner of the Phoenix.

**THE SWANSEA**, on the south slope of a westward spur, is in porphyry, and has produced not only rich ore, but large quantities. The records show that over \$60,000 worth of ore was shipped to Swansea, Wales, and large amounts were sold locally. Its development was by tunnels, cross-cuts, drifts, winzes, etc., and although it was not worked to any great depth, its ore bodies yielded fabulously. The Swansea belonged to foreign holders, and was shut down several years ago. It was not possible for so desirable a property to remain idle. Shrewd local and Salt Lake people obtained control, and about the first of May this year the mine was reopened, the old workings being found intact. The old Swansea is again a shipper, and the stockholders will soon be drawing dividends.

**THE SOUTH SWANSEA** is on the flat or level ground and is now shipping rich ore, and rapidly becoming a good mine. Extensive developments by a shaft (and at present a whim) have only been begun this spring, and not much drifting done.

Swansea and the South Swansea lie within half a mile and in plain view of Silver City.

The Park mine, south and nearer Silver City, is a property belonging to a Chicago company. It developed a large body of ore good enough to haul water four miles for jiggling at the tunnel.

**THE MONTEREY** is on the north side of Dragon Hollow which comes from the northeast. In front of Dragon Hollow, lies Silver City. The Monterey is being developed by George Cline and Joseph Lynch. The shaft is 45 feet on a contact understood to be between granite and porphyry. A good ore body showed assays 30 to 185 ounces silver and 14 ounces in gold. An average sample, across the face, showed 45 ounces silver and \$4.50 gold.

**THE SILVER BOW**, a few hundred yards north and east, but higher on the mountain side, is operated by a shaft now down 100 feet with a whim. It belongs to George Kappis & Sons, of Silver City, and has shipped some very good pay ore.

**THE UNION PACIFIC Co.'s** property is south of the Silver Bow. It has a shallow shaft, and gave excellent samples of ore last season. Salt Lake people control it.



THE IRON DUKE was operated by shaft and whim last season. A good showing in fair ore was made.

CLEVELAND CONSOLIDATED, continuing northeast, Dragon Hollow forks, the north fork being called Diamond Hollow. First comes the Cleveland Consolidated, being the Cleveland and the Lancaster. There are three veins. Two are being worked by shafts. The one on the Lancaster has a whim, the shaft being down 225 feet; the one on the Cleveland, by a windlass, has a shaft down 160 feet. Their ores are high grade carbonates. Two shipments from the Lancaster showed 330 ounces silver, 30 per cent lead, and 127 ounces silver and 25 per cent lead. Each had about \$5.00 in gold. A Cleveland shipment averaged 106 ounces silver, \$5.00 in gold and 35 per cent lead. Development and regular shipments are being pushed.

SILVER HILL GROUP lies south and west of the Copperopolis and north of Cleveland Consolidated. Development is a tunnel 100 feet, shaft 70 feet and several smaller shafts and open cuts. Shipments of good silver-lead ore running \$100 per ton have been made. Further work will be done during this season. Provo parties own the property, now under lease and bond to W. C. B. Allen, of Salt Lake.

THE DANDY JIM joins the Silver Hill Group on the west, between it and the Damficare. The development is by a shallow shaft, has shown good ore.

THE DAMFICARE, north 2,000 feet from the Lancaster, worked by shaft, is owned by Dr. Bostwick, and other Eureka parties as a stock company. Assays have shown 10 ounces gold, 10 ounces silver and some lead.

THE SILVER SPAR GROUP is almost due east from the Phoenix, and the Trail and Black Jack, before mentioned as being east of the South Mammoth and Mammoth, and directly north from the Damficare is the Silver Spar Group, seven claims. Development is by tunnels and shafts. Tunnels equal nearly 1,000 feet and shafts, 400. Up to the present, there has been no effort to make a record as a shipper, energies being directed to developing known ore bodies. Assays of the ore body showed 20 ounces silver, 3.7 ounces gold. The Silver Spar Mining and Milling Company is composed of St. Louis, Salt Lake and Silver City parties. Work is being vigorously prosecuted and the group is regarded as one of the best in Tintic.

THE BOSS TWEED, more northeast, owned and operated by Messrs. Mitchell, Royle and Harriman of Salt Lake, has quite an amount of shafting and tunnelling. Much good ore, running well in silver, gold and copper has been shipped. Active work continues.

THE UTAH CHIEF, is east of Boss Tweed and north of the West Star, North Star and East Star. Part of this was originally the old Diamond property. Some years ago, on other parts of the veins which extended into the present Utah Chief, much rich ore was mined. Tunnel and shaft show some ore. The property is owned by W. C. B. Allen of Salt Lake, and under bond and lease to James Martin of Eureka.

THE RED ROSE, owned and operated by Groesbeck Bros. of Salt Lake City, lies farther west and higher than the Boss Tweed. It is now being worked by whim and shaft, down 300 feet. Steam hoist is soon going up. Drifting on the large, strong vein developed considerable remarkably rich gold and silver ore. Some was shipped during the past year and ran as high as \$700 to the ton. Work and rich shipments have resumed.

THE NORTH STAR, south of Red Rose and across the gulch, belonging to Henry W. Lawrence of Salt Lake, is being worked by Roberts and Company under lease and bond, through a tunnel, and has shipped a quantity of very fine ore. Its gold has run 4 to 18 ounces, 60 ounces

silver and 30 per cent lead is a fair average. It is considered one of the most promising mines in this portion of Tintic.

**BROOKLINE.**—Going back to Dragon Hollow and following up that fork, is the "Brookline," having a large body of iron pyrites. Shipments of highly profitable ore, running well in silver and some gold, are being made. It is owned by some Springville parties.

**THE KING JAMES**, east of the Brookline, is shipping good ore. Its ores carry pyrites and run well in silver with some gold. George Naylor owns the property, which is being worked under bond and lease by J. L. Powell with shaft and whim.

**THE TINTIC IRON COMPANY'S MINE.**—One vast deposit of iron ore, commonly described as "a big iron blowout," between lime and porphyry, about 100 feet wide, is worked as a quarry leaving an excavation about 400 feet in length, 100 feet in width and 60 or 85 feet in height. A single shot sometimes breaks down 1,000 tons. The ore runs about 66 per cent metallic iron and very little silica. By the smelters in Salt Lake valley, it is greatly sought on account of its great value as a flux. The output for 1891 was 12,000 tons. Now the company is putting out about 40 tons per day. Some talc is found near the walls and occasionally some bismuth, but not in commercial quantities. The talc carries a little gold and silver. The iron carries no gold or silver. Recently, in the upper workings and farthest from the mouth of the openings, there has been struck a clearly defined and large vein of gold, silver and lead ore, which promises to be of far greater value than the iron. Assays have shown 5,000 or 6,000 ounces in silver and some gold. The company owns a dozen or more claims. L. E. Riter is the manager. Salt Lake parties own it.

**THE BLACK DRAGON** is north of and joining the Iron mine. Shipments of ore ran 96 ounces silver and \$28 in gold. Some of it has shown free gold. This is regarded as a very good property and has an operating shaft.

**THE RUST DRAGON**, lying at the north end of the Black Dragon and between it and the Governor. Knox and Brim are working it by shaft, under lease and bond. This ore carries some 70 ounces silver and 20 per cent copper. Some horn silver and gold have been found.

**THE GOVERNOR** lies north of and adjoins the Rust Dragon. It is a comparatively new discovery, but promptly became a good producer. Good shipments ran well in gold and silver, with enough copper to add value. John Beck and others purchased it for \$60,000 and put down a 200-foot three-compartment shaft, with steam hoist.

**THE CARISA**, owned by Roberts Brothers, of Provo and Salt Lake, is north and next the Governor, and has produced considerable ore, running well in gold, silver and copper. It was worked under a bond and lease. When the parties working it bought the Governor they removed the steam hoisting plant to the latter property.

**THE NORTHERN SPY**, a well-known property north of the Carisa, has two steam hoists and shafts, one of 600 feet. Much development work has been done. The principal stockholders are John Beck, A. E. Hyde and others. It has produced much high grade ore, carrying gold, silver and copper, and has immense lower grade reserves, now about to be utilized by the Clark process (in use at Tintic mill.) A plant for 100 tons per day will be erected at Lehi, on the Rio Grande Western main line.

**THE SIOUX**, north of the Northern Spy, and incorporated, belongs to Provo people. Like the Northern Spy, it has made some very high grade shipments—10 ounces gold and 60 ounces silver. Its great bodies of chloride ore demanded cheaper processes, and the company is erecting a plant



A STRIKING COMPARISON—THE HOLY LAND AND THE SALT LAKE VALLEY.

at Provo, on the main line of the Rio Grande Western Railway. It will use the MacArthur-Forrest process, which treats ores at \$2.00 to \$4.00 per ton. The property is worked by a 200-foot shaft and also by a tunnel.

THE MATIE BELL, Grand and Dandy are new claims, owned by W. T. Ferguson, of Eureka, and lie near the Sioux. At 8 feet an assay of 160 ounces silver was obtained.

THE TINTIC TUNNEL CO., a corporation, capital \$1,500,000, made the first move to take advantage (in Tintic) of the law permitting location of tunnel sites. At a point on the north side of Pinon Canon, their tunnel is located, from the Mammoth Tintic Tunnel claim, in a westerly direction for 3,000 feet, going through the Eureka peak or mountain. It has reached 400 feet and has just gone through a 44-foot vein showing considerable good ore. A compressed air plant and power drills will be put in and drifting also begun. Eureka, Provo and Salt Lake people are the promoters.

THE DANA GROUP—Easter, March, June and Daisy—belonging to Isaac Wolfe, of Salt Lake, and D. S. Dana, of Payson, has been bonded. Development shows considerable good ore and is still being pushed.

THE SANTAQUIN, owned by L. E. Riter & Co., and worked by an incline shaft, shows good ore. It lies west of the Governor, between it and the North Star. The ore is a copper ore of commercial value, and like all others in its vicinity, carries gold and silver of frequently high grade. It has made good shipments.

FAIR VIEW AND SIDE VIEW, east of the Silver Spar group and northeast of the Red Rose, have a shaft down 100 feet in iron on the Side View, and a tunnel in 100 feet on the Fair View. The grade of ore is very good and the bodies large.

THE LABONTA is a large iron "blowout," from which there has been taken much good iron ore. Considerable development work has been done. It belongs to the Tintic Iron Company, which devotes its energies to its properties previously described.

### GODIVA AND OTHER MOUNTAINS.

Having completed the mention of properties on the faces or slopes of all these mountains, there remain some properties on the tops of the mountains.

DAVIS & SCHMIDT BROS.' GROUP lies on the east side of Godiva or Eureka mountain. There are over 200 feet of tunnels—development work. A good vein has been struck, which carries silver, gold and lead. The mine is being developed with vigor.

THE ANACONDA GROUP of the Richmond & Anaconda Company, on the south side of Godiva Mountain, consists of three claims. The development work done has shown good ore. No shipments have been made. Work is to be actively pushed.

THE MARION CONSOLIDATED, three claims on Godiva mountain, between the Godiva and Mammoth mines, is in the limestone and belongs to B. Christensen, of Eureka. It has a tunnel in 170 feet, besides a shaft from that and several open cuts. These workings have good mineral indications.

THE PLUTUS belongs to the same party who owns the Marion Consolidated, and extends south from the south end of the Marion to the north end of the Mammoth. A tunnel tapped the vein at 170 feet, and 50 feet more did not find the foot wall. Drifting on this vein 220 feet, satisfies the owner that this property is on a vein extending from the Mammoth into the Godiva mine.

THE MEDEA CONSOLIDATED, west of those last named, belonging to the same party, is doing satisfactory development work, sinking a shaft on a heavy vein of iron and manganese. Some very good lots of ore have been extracted.

### ON MAMMOTH MOUNTAIN.

THE REBEL, incorporated, operates two claims on the top of Mammoth



Mountain, north of and adjoining the Eureka-Consolidated and the north extension of the Mammoth. Their shafts, each about 100 feet, are in good working order. Both are in iron and manganese and have shown good assays.

THE EUREKA CONSOLIDATED, incorporated, owns a good body of ground between the Mammoth and the Northern Spy, on top of Mammoth Mountain; has a steam hoist and a 250-foot shaft in lime. Work is being vigorously pushed and a good showing made in what is regarded as an excellent location for a large property. Salt Lake parties own it.

THE CLEVELAND is incorporated and lies east of and adjoining the Mammoth and north of the Golden Chain. In a tunnel and an incline shaft it has 200 feet of work. The ore, iron, carries gold. No large shipments have been made, but good ore is found.

THE GOLDEN CHAIN, east of the Mammoth, has a tunnel about 100 feet. From that is an incline of another 100 feet. This work is in iron. There have been assays of \$50 in gold and some silver; no ore has been shipped. Richard Tyner & Co., of Salt Lake City, own this property.

THE NAPOLEON, east of and parallel with the Copperopolis, is sinking to catch the vein and is down one hundred feet.

THE OPENHONGA, incorporated, is southeast of the Phoenix and north of the Silver Spar. A shaft one hundred feet on the vein is in iron. Good assays showed gold and silver. Regular shipments have not been made.

### SOUTH OF DRAGON HOLLOW.

Having completed the circuit of the mountains between Eureka, Silver City and Dragon Hollow (and of the tops of the same), the properties south of Dragon Hollow, beginning at its east or northeast end, are next.

Crossing Dragon Hollow from its north to its south side and returning westward, the first properties are:

THE RATTLER AND ROADSIDE, belonging to L. E. Riter & Co., of Silver City and Salt Lake. These are in porphyry, have had considerable development and shipped some very fine ore. There were three grades: First class, \$700; second class, \$300; third class, \$100. Below that was not shipped. The value was chiefly in silver.

THE GLADSTONE GROUP, owned by Whittemore & Son, lies west of the Rattler and Roadside. There has been considerable high grade ore shipped. Development work done, indicates a good property and is by shaft.

THE LUCKY belongs to C. R. Hancock, of Silver City; has had considerable development work done by shaft and has shipped much good ore; is still operated.

THE WHEELER MINE, one of the best known properties in this vicinity, has had much development work, and produces a large amount of good ore. Work for '92 has been resumed and good returns made. It is owned and operated by the Silver City Mining and Milling Company. C. R. Hancock, of Silver City, is manager.

THE SUNBEAM, up Sunbeam Hollow, is the famous Sunbeam mine, the first mine located and the first one developed in Tintic District, has always been and is still regarded a good property. It includes seven claims. Its shippings are very high. There are large quantities of second-class ores. The development work is by shafts and tunnels.

THE PRIDE OF THE HILLS lies south of the Undine. There is being sunk a compartment shaft, 6x8, now down 90 feet. It is intended to go through the pyrites of iron. A whim is used, but at 300 feet a steam hoist will be erected. Development consists of shafts 150 and 175 feet and less



depths. There are several tunnels. Ore running as high as 800 ounces silver and \$12 in gold has been shipped, netting all the way from \$17 to \$200 per ton on an average.

THE JUNE ROSE AND MARTHA WASHINGTON, owned by J. H. McCooley and Schell heirs, of Salt Lake, produced as early as 1871. The first death in Tintic (by an accident in a mine), was that of a Frenchman named La Fallette, in the Martha Washington. It produced several thousand tons of ore, frequently of very high grade and usually over \$100 per ton. It is now under lease and bond. The development is by a 100-foot shaft and drift. A whim is used.

THE SILVER COIN, north of the Martha Washington, on the same vein, is owned by L. E. Riter and Isaac Wolfe, of Salt Lake, and has a shaft and considerable development. The ore is free milling and of good grade. A large amount has been shipped. It is still shipping.

THE UNDISINE has produced, for a number of years, ore like the Sunbeam's; is still producing; has ore in sight and is being worked under a lease and bond by H. D. Jones, a former foreman at the great Mammoth mine. Mr. Jones recently optioned it for \$25,000 to Colorado capitalists. W. T. Ercanbrack, of Eureka, is the owner.

THE JOE DALY, south of the Undine, belongs to Baxter & Rouse; has produced much high grade ore and is regarded as a good shipping property. The development has been by shaft, drifts and winzes.

### ON GOLD HILL.

Across the gulch or hollow is a mountain to the south, Gold Hill. The vein is described as a fissure in porphyry. Beginning at the south end of the line of developed properties and tracing in their order northward, they are: The Lady Aspinwall, Moore, Independent, Tessoro, Golden Treasure, Julian Lane and Jersey. These have all produced large quantities of very high grade ore, which was shipped and ran well in gold, silver and copper. It had an iron base and was free milling.

JULIAN LANE, GOLDEN TREASURE and TESSORA have recently begun shipping some of their lower grades. Development is by shafts and tunnels, and there is considerable. The iron in these ores ran from 30 to 40 per cent, and the lead, 3 to 5 per cent.

THE MOORE produced ore running 1,200 in silver, and some gold. It was further distinguished by producing quite a quantity of ore which ran 55 per cent in bismuth, it is said. Some of these are being worked, yielding satisfactory results and giving every assurance of greater success with deeper mining.

THE BONANZA is the new name for the "Shoebridge Mine." For years it had a mill and large quantities of its very high grade gold, silver and copper ores were treated with satisfactory results. Ores from this mine took the world's prize at the Centennial Exposition at Philadelphia, for containing the greatest variety of minerals, 18 in number. The development work was by shafts and tunnels. Recent shipments have averaged 87 ounces silver and 18 per cent lead. A new tunnel was started last year to cut the vein at a still lower depth and has nearly reached it. The property is owned by C. H. Blanchard, of Silver City.

JOE BOWERS GROUP, southeast of the Bonanza, is owned by the Shower Consolidated Gold & Silver Mining Company and consists of fourteen claims. The principal stockholders are Walker Bros., of Salt Lake. It has shipped much very high grade ore, and it is understood that operations on an extensive scale will be resumed this season.

THE MORNING GLORY is a property west of the Bowers group and owned by Henry W. Lawrence and others of Salt Lake City. Like the Bowers, it has shipped much ore, high in silver and carrying gold.

THE GUM DROP, east of the Morning Glory, produced considerable ore, running from 70 to 80 ounces silver. It is a late location—1891—but is promising well. W. W. Hinch, of Eureka, is the owner.

RIISING SUN, on Rising Sun mountain, is a new property leased to Salt Lake parties who are making good progress. The ore is of good grade, carries gold and silver, has manganese for a base, and makes a good fluxing ore.

BELLE OF BUTTE, owned by Clark Leigh, lies west of Rising Sun. It is being developed by tunnels and winzes and shows very fine gold-bearing veins.

THE SUSAN, a property south of Belle of Butte, shipped considerable silver-lead ore of good grade. It is idle now, but is regarded as a good property. Susan Jane is sometimes given as the name of this property.

THE GALENA has a large body of silver-lead ore, a shipping grade, and has shipped some.

THE SEA LION GROUP, owned by G. T. Bridges & Co., is next to the Galena, four miles south of Silver City, and two and one-half miles east of Tintic mill. Development work on this new property shows assays of 16½ ounces silver, \$4 gold and 75 per cent lead.

## NORTH SIDE EUREKA GULCH

At the west end of the mountains on the north side of Eureka Gulch, the first property which has produced paying ore, is that of Sebastian Troester of Eureka. The ore is quartz between lime walls. A shaft 100 feet shows a clearly defined vein of quite five feet, averaging about twelve ounces of silver and some lead.

On its extension northward is the TINTIC CAVE MINE, owned by William Dowling of Eureka. These ores are very similar. A 90-foot shaft constitutes the development.

THE RICHMOND GROUP of the Richmond & Anaconda Co., six claims, lies west of Bullion-Beck and Keystone mines. Four strong ledges carrying gold, silver, lead and bismuth ores. Development is by shaft and tunnel. Formation very favorable and location justifies confidence shown by the company in extensive and vigorous development of this group.

THE EQUATOR GROUP has a shaft of 70 and another 40 feet. These shafts are in a red sandstone reef, 12 feet wide, between blue lime walls. The ore is low grade, improving with depth.

THE ALAMO consists of the "two-G.," Saratoga and one other claim. A double compartment shaft is being sunk to catch the vein, by drifting, at 300 feet. The grade is low and the vein, quartz, between lime walls. Pulliam, Thomas and Kellogg, of Eureka and Provo are the owners.

THE GLADSTONE group, west of the Alamo, consists of three claims belonging to the Bullion-Beck and Champion Company. There is a 130-foot shaft. Some good assays have been made.

THE CHAMPION, of the Bullion-Beck and Champion mine, east of the Alamo and Gladstone group, is being operated from the main Bullion-Beck and Champion shaft, and producing very much high grade ore, said to average over \$100 per ton.

THE KEYSTONE, a wedge-shaped or keystone claim, lying between the Red Bird, Gemini and Champion claims, has become one of Tintic's most famously rich producers.

THE GEMINI GROUP, of which the Keystone shaft is the working center, consists of some 13 claims running north and south. This is a single compartment, with "man way," and is down 700 feet. The Keystone's new triple compartment shaft being sunk on the Voltaire ground, down 200 feet, will be used as the main Gemini shaft.

THE COLORADO CHIEF, east of the Gemini Group, has a double compartment shaft down 600 feet. At 375 feet there is a drift connecting with the Keystone and 3,300 feet long.

THE RISING SUN is west of the Colorado Chief and north of the east end of the Gemini group. Its development shows very satisfactory indications.

West of Rising Sun and north of Gemini is THE RETRIBUTION, on the surface of which the Keystone vein is admitted to be traceable for its entire length. Ogden parties recently bought it from Messrs. Tone and Hopper for \$22,000, and are working it. Assays from the very wide and strong vein showed 12 ounces silver and 7.70 ounces gold.

THE MAMIE CONSOLIDATED, west of Retribution, consists of the Mamie and Nonie. Development is a 100-foot and a 20-foot shaft. Assays from the 5-foot vein, in lime, have shown 18 ounces silver.

THE BLACK WARRIOR, west of Mamie Consolidated, has a shaft of 75 feet and is an extension of the SACRAMENTO GROUP, which lies south of the Black Warrior and north of the Champion, of the Bullion-Beck and Champion. Ore from Black Warrior shaft showed 21 ounces in silver. Eureka parties own this property.

THE MISSOURI LASS, owned by C. C. Higgins, of Salt Lake, west of Black Warrior, is developing by a 70-foot tunnel, being extended for the vein, the strength and appearance of which is very encouraging.

THE TONE AND HOPPER GROUP—the Yorkville, Outcast, Manhatta and Revenue—lies north of Retribution, Mamie Consolidated, Black Warrior and Missouri Lass. Its 200-foot tunnel has a cross-cut to a 6-foot vein of iron, black manganese and quartz, upon which a winze is being sunk, and improves with depth. This ledge matter runs 8 ounces silver.

THE MANHATTA has a 100-foot incline shaft, with an 85-foot cross-cut at the bottom and a north drift of 70 feet. In the vein, there are about four feet of talc, assaying \$3 in gold. The vein is black quartz, from which are assays of 31 ounces silver and 28 per cent lead.

THE SENECA, north of the Manhatta, has a 70-foot shaft on the vein, with assays of 27 ounces silver. This ore is liver-colored quartz. The Seneca belongs to James P. Driscoll and others of Eureka.

THE SHAMROCK, belonging to Salt Lake parties, is north of the Seneca and has an 80-foot shaft on the vein. The large body of low grade ore is improving with depth.

THE MOHAWK QUEEN, east of the Shamrock, has a shaft down 30 feet in black manganese of low grade. This company's property includes five claims, east from the Shamrock and north of the Colorado Belle.

THE COLORADO BELLE belongs to W. C. Higging, of Salt Lake, and is being developed by a shaft now down 20 feet. It is expected to soon catch the good strong vein known to carry high grade rock.

THE C. W. B. GROUP belongs to Judge C. W. Bennett, C. S. Davis and others of Salt Lake, and is being vigorously developed by extensive and thorough work, running tunnels and sinking shafts.

THE D. & R. G. GROUP is owned by the same parties, and being developed at the same time. Both properties are looking most promising. Some very good mineral has been struck.

## NORTH TINTIC,

Nearly due north of the town of Eureka about three miles, the NORTH EUREKA MINING COMPANY has four claims. The vein is quartz, between lime and granite. The main shaft is down 70 feet and contracts being arranged for 200 more feet.

JOHN DAVIS owns a number of claims near by. On these low grade ore has been struck.

JOHN STROM and others own the next group of claims. Development is a 100-foot shaft with a winze about 75 feet. Fair grade silver ore, carrying some gold and about 15 per cent copper, has been struck.

THE FOREST KING, owned by the Burgess Brothers of American Fork, is down on the vein 35 feet. Ore running 17 ounces in silver, \$4 in gold, some cinnabar and a little lead, was struck.

THE MAMMOTH OF THE NORTH, two claims, has a vein between lime and quartzite, 20 feet wide, where it is cross-cut by the main tunnel at a point 200 feet in and 150 feet deep. Two shipments showed 42 ounces silver, \$4 gold and 23 per cent lead. By sorting, a copper ore running 11 ounces silver, \$2.50 in gold, 23 per cent copper and 15 per cent lead, about \$28 per ton net, is obtained. A winze 100 feet deep is being sunk on the vein. It is owned by Biddlecome, Bartlett and Hunter.

THE COPPER GULCH, another extension on Mammoth of the North, consists of five claims, developed in 1891 by a tunnel 226 feet, cutting a vein of iron, of low grade, 15 feet wide. Another vein carrying 9 ounces silver and some gold, was struck. The property is owned by Edgeworth and Bennet, and worked under lease and bond by Salt Lake parties.

THE IRON MOUNTAIN GROUP lies about three miles north of the Mammoth of the North. Discovered in 1879, it was the first find north of Eureka.

An incline of 15 feet struck an almost solid body of carbonates of lead, or crystallized lead, running 82 per cent, 3 ounces silver and a trace of gold. Two hundred tons were mined in two months. The drop in lead in 1880 stopped work. In 1889, in six weeks, 1,300 tons were shipped, and ran about 60 per cent lead and as many ounces silver. John Tiernan, of Salt Lake, owns it.

THE AJAX AND ESSEX, extensions of the Iron Mountain vein, carries 40 per cent lead, 40 ounces silver and trace of gold. The ore, a carbonate with an iron gangue, makes a good flux. Work is by incline of 90 feet, with ore in the bottom. The vein is quartz, between lime walls. At 40 feet lead ore develops about 40 feet wide. These, also, belong to John Tiernan.

A mile and a half north is the MILLER AND BENNETT GROUP, belonging to Salt Lake people. A 100 foot shaft is down on the vein; 125 ounces silver and \$3 gold was struck in a streak of clayey substance. One shipment was made.

THE BULLION—A property called the Bullion lies seven miles west of north from Eureka and one and a half miles west of the Mammoth of the North. It has a 130-foot shaft in quartz, between lime walls. Considerable stoping has been done and 1,000 tons of carbonate ore shipped, which ran 40 per cent lead, five ounces silver and a trace of gold. It has a steam hoist and is still being operated. L. E. Riter & Co., of Salt Lake, are the owners.



## THE GOLD BLOSSOM.

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MAMMOTH STRIKE OF RICH CARBONATE ORE IN NORTH TINTIC—THE MOST IMPORTANT STRIKE EVER MADE IN TINTIC, EXTENDING THE LIMITS OF ITS RECOGNIZED MINERAL BELT AND ADDING MILLIONS TO ITS WEALTH, AND CREATING GREAT EXCITEMENT AND INCREASED CONFIDENCE IN A PORTION OF TINTIC DISTRICT HERETOFORE PRAISED IN VERY CAREFUL TERMS—DETAILS OF THE WONDERFUL STRIKE WHICH STILL GROWS IN STRENGTH AND RELIABILITY.

The most important strike of 1892 has been the great carbonate discovery seven miles east of Eureka, in the North Tintic district. This property, called the Gold Blossom, was located about March 1st, in conjunction with a dozen other claims, and soon after the Gold Blossom Mining Company was incorporated with 100,000 shares of \$10 each. This body of lead carbonate ore was discovered within three feet of the surface. When opened up, it showed ten to twelve feet wide, and assayed from twenty-five to two hundred and forty ounces in silver, with thirty to seventy-five per cent lead. The formation of the Gold Blossom mountain, which lies about a mile east of Greeley Springs, at the head of Cedar Valley, is a lime country rock, with dykes or contacts of quartzite cutting the formation from southwest to northeast, large veins of carbonates crossing these contacts from east to west. Great excitement grew out of this discovery, and probably a hundred claims were located all around the Gold Blossom. Several hundred tons were produced by sinking seventy-five feet on the Gold Blossom's vein. In several other claims, evidences of ore in quantity have been found, giving assays from \$20 to \$50 per ton in gold, silver and lead near the surface.

Large numbers of mining men have examined this section, and all are satisfied that North Tintic will become one of the great camps of Utah.

THE DENVER AND OGDEN GROUP consists of six claims, adjoining, in Greeley Gulch one and one-half miles west on the famous Gold Blossom Group, and two miles north of Eureka on the great mineral belt, which contains the Keystone, Bullion-Beck, Centennial-Eureka, Colorado Chief and Retribution on the south, and the North Eureka and other well defined claims on the north. Good assays have been made from its ores.

### HOMANSVILLE.

The east part of Tintic, for former lack of railroad facilities, has been ignored and its mineral resources left undiscovered. Now, however, attention has been attracted in this direction by the building of the Rio Grande Western Railway, and by the recent great strikes in North Tintic, at the Gold Blossom and elsewhere. Following are a few of the properties near the Homansville mill (which is all there is of "Homansville").



**THE ANNIE CONSOLIDATED.**—The Annie, Little Giant, the Laura and the Little Meadow, located one-half mile northwest from the "Loop" on the Tintic Branch of the Rio Grande Western Railway, on the north side of Pinon canyon and one mile and a half east of Homansville. There is a shaft of 50 feet in which a new vein of three feet has been struck, but no assays stated. Earlier assays showed 15 ounces in silver, \$4 in gold and 20 to 25 per cent lead from a smaller vein.



CASTLE GATE, RIO GRANDE WESTERN RAILROAD.

**THE CALIOPE GROUP**, owned by Vernan & Co., has six claims on the South side of Pinon canyon, just west of the "Loop." The shaft has only been started, but assays show 55 ounces silver, 30 per cent in lead and a trace of gold.

**THE IOWA GROUP**, three-fourths of a mile east of Homansville, has a tunnel 200 feet, with about 700 feet of development work. A strong vein

has been struck showing good assays, but no ore has been shipped. It belongs to Eureka and Salt Lake parties.

### WEST TINTIC DISTRICT.

In general, the West Tintic country may be described as a limestone formation. The southern part of the district is lime and the northern part is quartzite. There are a number of distinct fissures and cross-fissures. In other words, it is very thoroughly fissured. The country rock has not been badly displaced and calculations in sinking are trustworthy.

The district was originally organized in 1872, and reorganized December 10, 1891, with O. P. Rockwell as recorder. It is in Juab county, Utah, and in the West Tintic mountains, on the west side of Tintic valley, and ten miles square. Eureka is the postoffice, and from that place to the east line of West Tintic district is sixteen miles, over good roads. The nearest properties are 22 miles from Eureka. Iron town, the nearest railway station, is 15 miles.

**THE SCOTIA.**—The earliest mining of any importance was done on the Scotia in 1868. It was operated until 1876. The company had a smelter at Homansville. The output, 13,000 tons, averaged 55 ounces silver and \$10 gold. It was a good carbonate smelting ore, carrying 40 per cent lead. Work was by inclines, but no depth was gained. The Scotia is being worked under bond and lease by Walker, Seabrook, Fee, Biddlecome and Bartlett, who are sinking (with a whim) a two compartment shaft on the vein, about 45 degrees northeast dip. It is down about 85 feet and has ore. The old workings have ore. A large shipment, sacked, averages 125 ounces silver, \$10 gold and 50 per cent lead.

**THE LUCILLE**, about one-quarter of a mile south of the Scotia, is owned by Biddlecome, Bartlett and Fee. In 1872-73 its shipments ran 150 ounces silver, \$4 gold and 16 per cent gray copper. The vein of quartz has blue lime walls and averages 3 feet. From the shaft, in a 90-foot drift, are lead carbonates running 23 ounces silver, 50 per cent lead and \$3.50 in gold. Some shipping ore is on the dump.

**THE SILVER BELL**, west of Scotia and on its contact, is again producing. Assays show 80 ounces silver, \$2.50 gold and 40 per cent lead. The 40-foot incline is being sunk deeper. Its 15-foot vein, it is said, will average 17 ounces silver, \$1.50 gold, 15 per cent lead.

**THE SILVER STAR**, owned by John Fleming, is one-half mile southwest of the Scotia, on the latter's contact. The 8-inch pay streak runs about 5 ounces silver, 65 per cent lead, 18 per cent copper. The incline shaft is down 30 feet.

**THE "OH BE JOYFUL!"** owned by J. R. Hickman and P. O. Rockwell, is a mine west of Scotia. The contact between lime and quartzite carries a hard carbonate ore, showing about 16 ounces silver, \$3.50 gold and 20 per cent lead.

**THE STONEWALL JACKSON**, the Charity and Brunswick comprise the Brunswick group, one half mile southwest from Scotia. Contact is lime and granite. The three-foot vein has iron gangue. In the Stonewall Jackson, there is 300 to 400 ounce silver ore, at times. The average is about sixty ounces silver, and sixty per cent lead, in the mineralized parts.

This mine was worked by a 250-foot incline shaft. Then there was a drift fifty feet. The last seventy-five feet of the shaft and the fifty-foot drift were done in 1890.

The "88," a wide vein with lime walls averages five ounces silver,

eighteen per cent lead, a trace of gold and a trace of copper. It joins the Lucille on the south and belongs to Messrs. Hickman and Rooker.

THE NORTHWESTERN, owned by O. P. Rockwell, is called a slate contact between quartzite and lime. The ore is hard carbonates, carrying fifteen ounces silver, \$3.00 in gold and thirty per cent lead. It is being worked by a forty-foot incline, with ore on the dump.

THE BIDDLECOME MINING Co., \$400,000.00 capital and 400,000 shares, will sink on the New Brunswick. Two veins, about 100 feet apart, carry 10 ounces silver and \$3.00 in gold, 18 per cent. copper, each.

THE HARD CASH is a fourth of a mile east of the Scotia and in its three-foot vein, has pay streaks assaying 500 ounces of silver, and shipped ore of that grade.

THE HAIL STONE, owned by N. M. Brown, et al., of Eureka, has a new shaft 50 feet deep. The two-foot vein, has a small pay streak, running 50 ounces silver, 60 per cent. lead. The shaft is being deepened and whim and buildings erected.

THE '92, a re-location of the Red Rose, has two shafts. One an incline of 100 feet, the other straight and 50 feet deep. Near the bottom, the incline has struck a three-foot vein of black quartz, copper stained, and carrying 6 ounces of silver, usually about \$3.00 in gold and 16 per cent copper. Sometimes it runs up to \$150.00 in gold. The owners are Hickman & Wright of Nephi, Utah.

There are scores of other claims, with more or less development and values.

THE RED BIRD AND COPPER STAR are claims just west of the district. Their vein is a true fissure, pitching of 45 degrees northwest. It is granite, 12 feet wide, and averages 18 per cent copper, 13 ounces silver and \$4 in gold, clear across. The walls are both granite. There is a shaft 6x6, on the incline 145 feet.

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## WORKING CHEAP ORES.

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GREAT STRIDES IN PROCESSES FOR WORKING TINTIC'S  
LOW GRADE ORES—INCALCULABLE BENEFITS TO BE  
DERIVED FROM MAKING PROFITABLE PRODUCERS OUT  
OF HITHERTO IDLE PROPERTIES WITH VAST BODIES  
OF ORES.

Many properties of Tintic district have long questioned what to do with their great bodies of low grade ores, which far more than pay mining expenses, but are not rich enough to pay high shipping and smelting charges. Now that processes have been applied and proven successes, such ores will be highly profitable.

### THE CLARK PROCESS.

In 1888, Davis, Mullett & Co. leased and remodeled the old Tintic (Mammoth) mill and leached its tailings (13,000 tons), extracting 85 per cent

of the \$17, for \$5 per ton. They also profitably worked the Homansville mill tailings and began work on the Mammoth's second grade ores, which worked fully as well as the tailings. The Shettle Bros. bought out Davis, Mullett & Co. in June, 1891, and simplified the Clark process, which consists of drying, stamping, salting, roasting and leaching, thus reducing the ore to sulphides. It is a chlorination-lixivation process. The company, reorganized and capitalized at \$200,000, is increasing the plant to one hundred tons per day, when treatment will not exceed two dollars per ton. The railway runs to the mill from all parts of the district and cheap custom rates await Tintic ores.

### THE GERVASE-BROWN PROCESS.

The Gervase-Brown process is just being started in Ruby Hollow by Messrs. Nicholas Groesbeck and C. G. Brown, of Salt Lake. The process is said to be a great success and is described in general terms as a "chemical-electric process," smelting by electricity and using no fuel except for steam power. The cost of the plant—capacity fifty tons in twelve hours—is \$7,000. Treatment is estimated at \$1.75 to \$2 per ton, and 97 per cent of the gold and silver is expected. Copper and lead are saved, while zinc and silica do not detract. The product is bullion, worth \$2,800 to \$3,500 per ton.

### THE HYPO-SULPHIDE PROCESS.

The Hypo-Sulphide process is working on Homansville mill tailings. The results are satisfactory. Its greatest value is assuring another cheap process for Tintic's ores.

### CYANIDE WORKS TINTIC ORES.

The Sioux Co. has tried the Cyanide leaching, or McArthur-Forrest Process, and being satisfied, has begun the erection of a 50-ton plant at Provo. 75 to 90 per cent. has been saved, the process doing not quite so well on silver as on gold. Copper does not interfere. The cost of treatment is estimated at \$2.00 or less.

### OTHER CHEAP TREATMENT.

It is stated, on good authority, that one of Tintic's bonanza mines has concluded to inaugurate in Utah Valley still another process with a capacity of 100 tons per day.

### THE RUSSELL PROCESS,

For several years in successful use at the Marsac mill, on Daly mine ores, has successfully treated Tintic ores.

### THE TINTIC SAMPLING WORKS,

or "Rice's Sampler," capacity of 100 tons per day, are located at the mouth of Mammoth Hollow. Starting in May 1891, they have been behind on orders sometime and busy all the while. Their rates are cheaper than in the Salt Lake Valley and the work eminently satisfactory. John Beck recently bought them.



# HUNDREDS OF RICH STRIKES.

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COMMON EVERY DAY TINTIC OCCURRENCES—A YEAR'S SHOWING FOR UTAH'S GREATEST CAMP—THE "TINTIC MINER'S" RECORD OF STRIKES, ETC., THAT WOULD CAUSE A STAMPEDE TO CAMPS, WHERE SUCH EVENTS ARE NOT FREQUENT.

It was the original intention in compiling this work, to give very brief extracts of each item published in the *Tintic Miner*, from May 1st, 1891, to May 31st, '92, in which was mentioned any strike in, or development of, a Tintic property. This feature, however, had to be reduced to a general summary, because an enumeration of such incidents, would alone overtax the original scope of this publication.

## 527 STRIKES, ETC.

527 separate and distinct items referring to such events, appeared between May, 1st 1891, and May 31st, 1892. Many of these would have created a "boom" and a rush for almost any mining camp outside of Utah. But with Utah, and particularly Tintic, such things do not excite the conservative class of people who are mining here, principally for the reason that they know there are plenty more properties just as good, which by diligent, faithful development, will reward their efforts. In other words, rich strikes in Tintic are so frequent that unless it be something remarkable and in an entirely new part of the district, it does not create a ripple of excitement.

## ADVANTAGES OF INVESTING NOW IN TINTIC MINES AND TOWN PROPERTIES.

To any one who may be looking for an investment in either good mining property, which can be developed cheaply and quickly, or in good town property, which is increasing steadily and rapidly in value, there is no place which affords better opportunities than can be found in the Tintic Mining Districts and their towns.

The superiority of Tintic mining properties has been demonstrated by years of increasing values of its Great Bonanza Mines. Systematic and intelligent mining operations on a small scale are now demonstrating that Tintic is the cheapest, most certain and most remunerative mining camp in the West, for men of moderate means to begin operations. The small property in Tintic which does not pay its own way during development is far from the prevailing rule. There are several properties upon which has been done enough work to demonstrate their great value and which can be bought in part or outright for enough to put in proper appliances to develop large shippers.

## TINTIC TOWN PROPERTY.

As a natural consequence, in a mining section of such great area, vast resources and rapid development as is evidenced in Tintic, the towns must be and are progressing in size, wealth and permanency very rapidly. As the rule in Tintic has heretofore been an entire absence of any "boom" spirit, the prevailing prices of town property are below what their present advantages and future assurances justify. Salt Lake and other capitalists are just beginning to notice this opportunity for safe and lucrative investments, and the result will by the end of the present season take the shape of an impetus in real estate demands and values in the towns of Tintic. Their solidity is in full accordance with the solidity of the great mines and mining opportunities of

## UTAH'S GREATEST CAMP.



**PRESS OF  
THE IRRIGATION AGE.  
SALT LAKE CITY.**